Visual Propaganda on Facebook:

A Comparative Analysis of Syrian Conflicts

Citation: Seo, H. & Ebrahim, H. (2016). Visual propaganda on Facebook: A comparative analysis of Syrian conflict. *Media, War & Conflict, 9*(3), 227-251.

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Introduction

Visual content has long been an essential part of communication whether political, social, international, or business-related (Brantner et al., 2011; Domke et al., 2002; Fahmy et al., 2014; Goldstein, 2009; Rose, 2012; Schwalbe and Dougherty, 2015). The emergence of digital communication technologies has made the role of visuals in communication more prominent, as people opt for easy-to-digest content and share attention-grabbing images via social media channels (Alper, 2014; Seo, 2014). News organizations, government agencies, and businesses have been attempting to optimize visual content for effective communication.

Against this backdrop, popular social media platforms such as Facebook and Twitter have served as important venues for political actors in conflict to share images as a part of their propaganda messaging. For the purpose of this study, propaganda is defined as a form of communication that attempts to promote a certain political agenda and influence the target audience's point of view (Cull and Welch, 2003; Jowett and O'Donnell, 2015). Social media platforms have enabled parties in conflict to communicate directly with their target audiences absent any need to go through traditional intermediaries such as mass media. For example, Seo's (2014) analysis of Twitter images posted by the Israel Defense Forces and Hamas' Alquassam Brigades during the November 2012 Gaza conflict showed that both sides used various themes and frames to emphasize casualties of their own side and to portray the other side as the aggressor. In 2013, graphic images of Syrian civilians injured or killed during alleged chemical weapons attacks were widely circulated via social media sites such as Facebook, Twitter, Instagram, and YouTube (BBC, 2014). A more recent example is a series of graphic Internet

videos by the self-proclaimed Islamic State (ISIS) in 2014 showing beheading of Westerners (Martinez and Abdelaziz, 2014).

While the role of visual propaganda in social media has become more significant and widespread, there has been insufficient empirical or theoretical research on this topic. This study aims to fill this gap in the literature by conducting content analysis of images posted on the official Facebook pages of Syrian President Bashar al-Assad and the National Coalition of Syrian Revolution and Opposition Forces. The latter, often called the Syrian Coalition, has represented Syrian opposition groups in international meetings (Bouchard, 2014). We analyze images posted on the two Facebook pages from April 2013 to September 2014 to cover key issues surrounding the recent Syrian conflict such as Syrian chemical weapons situations and the emergence of ISIS in the Middle East (BBC, 2014). Specifically, themes, frames, and structural features of images posted to the two Facebook groups are compared to see if there are significant differences or similarities between the two sides in using images for their propaganda purposes during the recent Syrian conflicts following the March 2011 popular protests against the Syrian President. Moreover, thematic and structural features of the images are correlated with audience reactions to the images—number of likes, shares, and comments—to identify characteristics of images that generated most reactions.

Empirical research such as this is an important step toward developing solid methodological frameworks for analyzing social media-based visual propaganda and persuasive messages. It also contributes to building a theoretical model explicating functions and effects of visual propaganda during conflicts. It is essential to update theoretical frameworks to reflect changes brought about by social collaborative networks facilitated by digital communication technologies. The results of this research also have important implications for scholarly and

policy communities in the fields of visual communication, international communication, and conflict studies.

Literature review

Visual propaganda and framing

Visual imagery has long been a key component of propaganda (Jowett and O'Donnell, 2015; Green, 2014; Rose, 2012). From ancient coins emblazoned with images of emperors in Rome, political posters during World Wars I and II, to graphic Internet videos of the Islamic State beheading Westerners in 2014, visuals are used to create "awe and respect" and "a sense of potency" (Jowett and O'Donnell, 2015: 327). That is, visual imagery helps maximize desired effects by helping elicit emotions necessary for persuasion. For this reason, visuals have been an important aspect of propaganda research (Fahmy et al., 2014; Jowett and O'Donnell, 2015; Rose, 2012).

In studying visual propaganda, it is important to take into account framing devices used to enhance persuasiveness of the message. *Framing* refers to the ability of communicators to influence an audience's understanding of an issue based on the way they present the issue (Entman, 1993; Gamson, 1992; Melki, 2014; Reese, 2007; Scheufele and Tewksbury, 2007). For example, Scheufele and Tewksbury (2007) argue that framing is modes of presentations communicators adopt in "presenting relatively complex issues in a way that makes them accessible to lay audiences" (2007, p. 12).

Structures of narratives or story lines are important aspects of framing, as they help construct and define issues using salient aspects of a social reality that is already understood by an audience. In this sense, Gamson and Modigliani (1987: 143) defined a frame as "a central organizing idea or story line that provides meaning to an unfolding strip of events, weaving a connection among them." According to Reese (2007: 150), frames are "organizing principles that

are socially shared and persistent over time, that work symbolically to meaningfully structure the social world." In cognitive psychology, it has been shown that people use frames to build structure and understand their realities as more of a personal narrative (Kinder, 2007).

In developing organizing narratives for framing, communicators often make a certain aspect of an issue more salient and influence how the receiver of the information understands or interprets the issue presented. Entman (1993: 52) argues that framing consists of selecting some facets of "a perceived reality and making them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation." Framing also works by influencing people as to which associations should receive greater weight in relation to others (Nelson, Clawson and Oxley, 1997). Therefore, frames can play a vital role in stimulating opposition to or support for an event or issue by representing specific ideology. In short, frames may guide how people understand the world and thus form judgments.

Visuals play a significant role in presenting an issue in a way that makes selected aspects of the issue salient (Borah, 2009; Brantner et al., 2011; Domke et al., 2002; Green, 2014; Greenwood and Jenkins, 2015; Schwalbe et al., 2008; Schwalbe and Dougherty, 2015). For example, media outlets used different framing devices in covering the U.S.-led invitation of Iraq in 2003 emphasizing particular aspects of the Iraq war (Aday et al., 2005; Schwalb et al., 2008). A content analysis of images featured in the U.S. mainstream media showed that the visual framing changed from conflict to human interest during the campaign's first five weeks (Schwalbe et al., 2008). Another study of framing in television coverage of the 2003 Iraq war found that the image of Hussein's statue in Firdos Square falling served as an effective mechanism for presenting a victory frame and "provided a less climactic sense of the war" (Aday et al., 2005: 327). Schwalbe and Dougherty's (2015) analysis of visual frames used by *Time*,

Newsweek, and *U.S. News & World Report* in covering the 2006 Lebanon War showed that the news magazines focused on the war's negative impact on Lebanon and its people by using military conflict and human interest frames. A study of visual framing of the 2011-2012 Syrian conflict showed that conflict framing was dominant in images featured in news and public affairs magazines though peace framing was also salient in public affairs magazines (Greenwood and Jenkins, 2015). Based on an analysis of visual propaganda related to the German invasion of Belgium during the First World War, Green (2014) argued that visual representations and rhetorical frameworks were used to manipulate public opinion in Britain.

Propaganda in the social media age

Recent developments in information and communication technologies (ICTs) have significantly influenced techniques of propaganda (Cull et al., 2003; Jowett and O'Donnell, 2015). The emergence of social media is particularly relevant in this context, as popular social media platforms such as Facebook and Twitter have allowed individuals and organizations to directly interact with target audiences without having to rely on traditional intermediaries such as mass media. Social media refers to a group of applications that allow people to interact with one another and create, share, and engage user-generated content using digital network technologies (boyd and Ellison, 2007; Ellison and boyd, 2013; Kaplan and Haenlein, 2010). Different types of social media serve different purposes. For example, platforms like Facebook, Twitter, and Instagram are geared more toward helping build and maintain social relationships. Other platforms like YouTube, Flickr, and Pinterest emphasize more on content sharing aspects such as video sharing or photo sharing.

With more than one billion active users on Facebook and 320 million on Twitter worldwide (Facebook, 2015; Twitter, 2015), social media is an important venue for domestic and international political activities. A report shows that as of 2013 about 83% of the 193 member

countries of the United Nations had a presence on Twitter, and 68% of all heads of state and government had personal accounts on the micro-blogging site (Burson-Masteller, 2014). As Jowett and O'Donnell (2015: 303) put it, "Increasingly, world leaders are becoming astutely aware that their every action is being critically examined within this new electronic arena, and like the actors that most politicians are, they are adjusting their postures and policies to make the most of their exposure." The emergence of social media poses challenges for political leaders, as people have a far greater number of channels through which they can receive and share information. Social media-based information warfare has been prominent in conflict situations. For example, the Israel Defense Forces and Hamas' Alqassam Brigades actively used Twitter during the 2012 Gaza conflict to build international support for their own side (Cohen, 2012; Seo, 2014).

These are in line with characteristics of the networked information society—disintermediation, nonmarket peer production, and decentralization of information—facilitated by ICTs (Benkler, 2006; Castells, 2010; Shirky, 2011). Increased disintermediation and decentralization in information production and diffusion means that propaganda agents no longer need to go through mass media to spread their messages to target audiences; they can go directly to an audience by utilizing their own social media sites. That is, propaganda agents can more easily mobilize the public to amplify their messages if they can identify appropriate channels and content. Moreover, they can identify and work with social influencers to serve as "channels of communication to broader audiences" through social media platforms (Jowett and O'Donnell, 2015: 395). The current study continues in this tradition and examines social media-based propaganda images used during the latest conflicts in Syria that began with popular uprisings against Syrian President Bashar al-Assad in 2011.

Syrian conflicts and social media

Social media platforms played a significant role in facilitating the so-called Arab Spring—popular political movements in some Middle Eastern and North African (MENA) countries such as Tunisia, Egypt, and Syria since 2010 (Halverson et al., 2013; Howard and Hussain, 2011; Kirkpatrick and Sanger, 2011; Shehabat, 2012). Social collaborative networks, facilitated by these popular social media sites, helped activists mobilize citizens, organize protests, and network with activists in neighboring countries (Howard and Hussain, 2011; Kirkpatrick and Sanger, 2011). Social media also provided channels for both activists and citizens to express dissatisfaction with the status quo and abuse of power by political leaders in their country and thus to create a collective identity against oppression and around resistance (Howard and Hussain, 2011; Polletta and Jasper, 2001). It was not only activists but also dictators who understood the critical role of social media in information warfare in this age of online social networking. This has created a dynamic wherein political messages are exchanged via popular social media sites between activists and those who currently hold political power.

The ongoing civil war in the Syrian Arab Republic, or Syria, is one of the most significant recent examples of this. Syria is a MENA (Middle East and North Africa) country that shares borders with Iraq, Turkey, Lebanon, Israel, and Jordan. Syrian President Bashar Hafez al-Assad assumed the presidency in 2000 when his father, Hafez al-Assad, died after ruling the country for 30 years (Erlich, 2014). The popular uprising in Syria began in March 2011, with pro-democracy demonstrators gathering in the southern city of Derra in protest against the government's arrest and torture of several teenagers who wrote anti-government graffiti on a school wall (BBC, 2015). These protests were in line with other freedom movements in the MENA region around that time (Harding and Arthur, 2013; Shebahat, 2012). Syrian government forces responded by firing on the demonstrators. This was followed by more citizens joining the pro-democracy protests. Demonstrations spread across Syria with hundreds of

thousands taking to the streets by July 2011 (BBC, 2014, 2015). Protesters demanded an end to the authoritarian practices of the Assad regime and the resignation of President Bashar al-Assad (Harding and Arthur, 2013; Shebahat, 2012). Opposition groups were armed and fought against the Syrian government's crack down on protesters. A report commissioned by the Office of the UN High Commissioner for Human Rights estimated that the number of conflict-related killings in Syria reached more than 191,000 as of April 2014 (Price, Gohdes and Ball, 2014). In particular, the Assad regime tried to further restrict and control information by attacking media organizations and journalists. For example, Syrian government forces raided the nonprofit Syrian Center for Media and Freedom of Expression and arrested its officials (Freedom House, 2014). The Committee to Protect Journalists (2015) reported that at least 81 journalists have been killed in Syria since the 2011 uprising, "making it the second deadliest conflict for journalists" since the committee began comprehensive records in 1992. With the geopolitical significance of Syria and deepening humanitarian crisis, the Syrian conflict generated international discussions in social media arena (Callaghan et al., 2014).

Since popular uprisings against Syrian President Bashar al-Assad's regime in 2011, both the Syrian opposition and the Assad regime have actively used multiple social media channels including Facebook, Twitter, Instagram, and YouTube to counter the other's claims and to promote their own agenda within and outside the country (Curry, 2013; Sadiki, 2012; Shehabat, 2012). The increased importance of social media in Syria is in line with the significant growth in the number of Internet users in the MENA region (Internet World Stats, 2015; Seo and Thorson, 2012). As of December 2014, about six million people in Syria used the Internet with the penetration rate of 26%, compared with 30,000 Internet users in 2000 (Internet World Stats, 2015).

For opposition forces in Syria, social media has been an essential tool to expose "brutalities" of the Assad regime to the international community and to diffuse their revolutionary or resistance messages to people in and outside of Syria. In particular, Facebook, the world's most popular social media site (Facebook, 2015), played an important role in networking and information dissemination. As of March 2015, there were a dozen of active Facebook accounts that claim to be accounts of the official Syrian oppositions. These sites include Facebook pages named "National Coalition of Syrian Revolution and Opposition Forces," "Syrian National Council," and "Local Coordination Committees of Syria" (Facebook, 2015). The number of Facebook "likes" that these sites received as of March 2015 ranged from about 900 to more than 110,000. Posts on these sites include content mostly in Arabic or English though some are in other languages such as French and Turkish. When the Assad regime intensified its ban on foreign press coverage of the Syrian situation and its censorship of social media within Syria, Syrian diaspora activists have supported the Syria-based opposition's social media efforts by telling stories of civilian sufferings in Syria via social media (Anden-Papadopoulos and Pantti, 2013).

Recognizing the importance of social media in controlling its citizens and its image outside the country, Syrian President Bashar al-Assad's government has also capitalized on these new communication channels. The Assad regime used the Syrian Electronic Army, dubbed as "Assad's cyber warriors," for its social media-based propaganda warfare (Harding and Arthur, 2013; Shehabat, 2012). They closely monitored and tracked down dissenters and shut down websites critical of the Assad regime. In addition to these Internet censorship activities, the Assad regime has involved in more subtle propaganda efforts by creating accounts on popular social media sites such as Facebook, Twitter, and Instagram. As of March 2015, the Syrian President's Office garnered over 210,000 Facebook "likes," 13,900 Twitter followers, and

44,000 Instagram followers. Despite an increased number of Syrian civilians killed, injured, or displaced during the conflicts (UNHCR, 2014), the Syrian government has shared, via these social media sites, photos emphasizing normalcy in the country—for example, the Syrian President engaging in regular domestic and diplomatic activities and Syrian First Lady Asma al-Assad interacting with or caring for civilians and military personnel.

Research questions

As discussed above, information and communication technologies (ICTs) played an important role in the Syrian revolution, with both Syrian President Bashar al-Assad's regime and opposition forces actively using social media sites to promote their agendas (Sadiki, 2012; Shehabat, 2012). The recent conflict in Syria has been described as "the most socially mediated in history" (Callaghan et al., 2014: 1). In particular, Facebook was widely used in propaganda efforts both by the Syrian President and by Syrian opposition forces in terms of number of posts and amount of audience engagement. Both sides actively shared on Facebook imagery, a form with cultural and historical significance in the region, to promote their agendas. In this sense, content available on the Syrian President Facebook page and the leading Syrian Coalition Facebook page provides an important opportunity to understand how social media-based visuals are used during times of conflict. Previous research on the role of visuals in propaganda and persuasion has demonstrated the importance of analyzing thematic elements and framing devices in examining the topic (e.g., Aday et al., 2005; Coleman, 2010; Goldstein, 2009; Green, 2014; Greenwood and Jenkins, 2015; Schwalbe et al., 2008; Schwalbe and Dougherty, 2015). Based on our review of previous studies and preliminary research on this topic, we pose the following research questions.

RQ1: How do images posted to the Syrian President's Facebook page differ from those posted to the Syrian Coalition's Facebook page in terms of prominent themes?

RQ2: How do images posted to the Syrian President's Facebook page differ from those posted to the Syrian Coalition's Facebook page in terms of propaganda frames?

RQ3: How are different types of themes and frames of Facebook images associated with audience reactions to those images?

Methods

We conducted a content analysis of images posted on Syrian President Bashar al-Assad's official Facebook page and the Syrian Coalition Facebook page. An image—photo, video, or graphic illustration—was the unit of analysis for coding themes, frames, and structural features. Captions accompanying images were also taken into account in coding themes and frames of images. Coding categories are explained later in this section. In analyzing audience reactions to those images, we examined numbers of likes, shares and comments—written responses to images posted by the Facebook groups.

Data. The sample for this research comprises all images posted on the Syrian President's Facebook page and the Syrian Coalition Facebook page from April 1, 2013 to September 30, 2014. During the 18-month timeframe, a total of 333 images were posted—214 images on the Syrian President's Facebook page and 119 images on the Syrian Coalition Facebook page. We chose April 2013 as the beginning month of data collection since that is the first month when both Facebook pages were open and active. The Syrian Coalition Facebook page and the Syrian President's Facebook page were created in November 2012 and March 2013, respectively. Since this study compares how both sides used visuals on Facebook to propagate their messages around similar events during the Syrian conflict, we began our data collection with the month when both sides were posting to Facebook. We collected data through September 2014 to capture important developments of the recent Syria conflict including the Syrian chemical weapons case and the Islamic State insurgence in the Middle East (BBC, 2014). Facebook

algorithms are constantly evolving, and based on behaviors of the user and the user's connections, presentation of updates or other content is adjusted. This means that those who are followers the Syrian President Facebook page or the Syrian Coalition page may have been exposed to slightly different types of content. This was not a major concern for this study, as both Facebook pages were public. The visual content was archived directly from the Facebook pages.

Coding scheme. Previous studies in this area as well as grounded theory approach guided development of categories for coding themes and frames (Brantner et al., 2011; Cull et al., 2003; Goldstein, 2009; Seo, 2014; Strauss and Corbin, 1998). Particularly, a constant comparative method was used in which the visuals were analyzed by two coders, each fluent in both Arabic and English and trained in content analysis, for potential adoption of categories used in previous studies and development of new categories. This led to the following coding categories. The categories for coding the most prominent theme in each image were: (i) *victory*, (ii) *threats from the enemy*, (iii) *casualties of civilians or military personnel*, (iv) *destruction*, (v) *unity*, (vi) *humanity*, and (vii) *other*. The *victory* category covered images that convey defeating of the other side—Syrian opposition forces or Western countries from the perspective of the Syrian President Facebook page, and the Syrian President Assad regime from the perspective of the Syrian Coalition page. For example, a Facebook image showing the Syrian government force cracking down on opposition forces would fall into this category. The *threats from the enemy* theme concerned military capabilities of the other side such as use of chemical weapons or missiles or leaders of the other side soliciting domestic or international support for military attacks. An example in this category would be an image of the Syrian government military force on the Syrian Coalition Facebook page. The *causalities of civilians* category was applied to images of death, injuries, and suffering of civilians. The *destruction* theme covered images of infrastructure

in their own territories being destroyed by attacks from the other side. The *unity* category covered images aimed at promoting solidarity with foreign allies as well as among their own military and political forces or civilian supporters. The *humanity* theme covered images emphasizing efforts to protect innocent civilians. In addition to the prominent theme of each image, whether the message was mainly aimed at domestic or international audiences was also coded.

Three categories were used in analyzing types of propaganda frame featured in Facebook images: *overt* vs. *covert*, *analytical* vs. *emotional*, and *human interest* vs. *non-human interest*. Previous research on propaganda guided the establishment of these items (Cull et al., 2003; Goldstein, 2009). The *overt* frame covered images that explicitly promote their own agenda or blame the other side for the ongoing crisis and chaos labeling it as an "evil" or aggressor. For example, the Syrian opposition Facebook page posted an image linking the Assad regime with the self-proclaimed Islamic State would fall under this category. In comparison, the *covert* frame was for images posted by the Syrian President and the Syrian opposition that implicitly promote their agendas. An example of the covert frame would be an image of the Syrian President receiving praise from Syrian citizens or foreign leaders conveying his national or international support despite the growing calls from Syrian opposition forces and the international community to step down. The *analytical* frame captured images that focused on facts, statistics, or analytical interpretations of how their own side is protecting Syrian people, how the other side is harming Syria, and how their own side is prepared to defeat the other side. In comparison, the *emotional* frame covered images intended to evoke emotions such as compassion for their own side and animosity toward the other side. Finally, the *human interest* frame was used to capture images that highlight specific individuals who suffer from attacks from the other side and help Facebook users associate themselves with those individuals and their stories.

The structural features coded were: (i) whether the image was a still photo, video, or graphic illustration, (ii) whether any caption accompanying an image was in English, Arabic, or both English and Arabic, or other language, (iii) and whether a character appearing in the image was child or adult.

In coding still photos, illustrations, and videos, we followed methods used by previous studies of visual content analysis (Keith et al., 2009, 2010; Rose, 2012). The coders considered the entire image and caption associated with it in determining the most prominent theme, main frame, and primary character in still photos and graphic illustrations. When a still photo or a graphic illustration included multiple sub-images, our coding focused on the most dominant image—the largest image (Keith et al., 2009). For a video, the coders watched the complete video and used the dominant image—the image featured longest in the video—in analyzing those aspects (Keith et al., 2009, 2010). The videos analyzed in this study were relatively short with an average length was about three minutes.

Inter-coder reliability. For an inter-coder reliability test, two trained coders fluent with both English and Arabic coded the same 10% of the sample images from each Facebook page (Krippendorff, 2004; Riffe et al., 2005). Inter-coder reliability was determined using *Scott's pi*. The inter-coder reliability score for theme and frame was .91 and .93, respectively. The inter-coder reliability score for the main character was .98, image type .99, caption language .99, and audience reactions .99.

Data analysis. The SPSS software package was used for data analysis. Basic descriptive statistics and Chi-square tests were used to examine differences between the Syrian President's Facebook page and the opposition's Facebook page in terms of prominent themes, frames, and structural characteristics.

Results

The following results are based on our content analysis of 214 images posted to the Syrian President's Facebook page and 119 images posted to the Syrian National Coalition page from April 1, 2013 to September 30, 2014. Of the 214 images on the Syrian President's page, 54.2% were still photos, 40.7% videos, and 5.1% graphic illustrations. In comparison, about 44.5% of the 119 images on the Syrian National Coalition page were still photos, another 44.5% graphic illustrations, and only 10.9% videos.

Prominent theme (RQ1). Our first research question asked how images posted to the Syrian President's Facebook page differ from those posted to the Syrian Coalition's Facebook page in terms of prominent themes. According to a Chi-square test, there were statistically significant differences between the two Facebook pages in regards to prominent themes featured in the images (χ^2 (1, df = 6) = 69.22, p < .001). As shown in Table 1, *unity* (31.8%) was the most prominent theme among the images posted to the Syrian President Facebook page. It was followed by *humanity* (19.2%), *threats from the enemy* (16.4%), and *victory* (15.9%). It makes sense that the Assad regime emphasized the theme of *unity* in its social media efforts, as holding on to power was the key concern for his regime amid increased calls for his resignation from Syrian opposition forces and the international community in 2013 and 2014. In addition, images with the *unity* theme on the Syrian President Facebook page received a high number of likes and shares perhaps as people supporting the Syrian President wanted to show support for Assad solidifying its power base.

In comparison, *threats from the enemy* (29.4%) and *casualties of civilians or military personnel* (25.2%) were the two most prominent themes among the images posted to the Syrian Coalition Facebook page, as the main opposition group emphasized military threats posed by the Assad regime and sufferings of opposition forces and civilians under the regime. In particular,

the Syrian Coalition Facebook page posted in 2013 quite a few images featuring Syrian children killed by alleged chemical weapons attacks by the Assad regime. Images carrying the themes of *threats from the enemy* generated high levels of audience response including shares and comments on the Syrian Coalition Facebook page, as those supporting the opposition group wanted to emphasize the deprivation and oppression under the Assad regime. Visitors to the Syrian Coalition Facebook page also reacted actively to images conveying the theme of *casualties of civilians.* Those images were often emotional and graphic and thus may have encouraged support by linking, commenting on, or sharing those images. While a majority of the images were aimed at revealing brutalities of the Assad regime, the Syrian Coalition also emphasized the importance of Syrian people and activists working together to defeat the Assad regime by featuring images conveying the themes of *unity* (13.4%) and *victory* (13.4%).

Both the Syrian President Facebook page and the Syrian Coalition Facebook page focused mainly on domestic issues in communicating these themes. However, there was a significant difference between the two pages in terms of how much emphasis they put on domestic or international issues through the images (χ^2 (1, df = 2) = 5.85, p = 0.5). About 60.3% of the images on the Syrian President Facebook page covered domestic aspects and 39.7% covered international or diplomatic facets. Of the images posted to the Syrian Coalition page, 73.1% focused on domestic situations and 26.9% on issues involving the international community. One of the main reasons for the higher proportion of images covering international or diplomatic issues on the Syrian President Facebook page is that President Assad held a series of meetings with foreign leaders after his re-election in June 2014. He won a landslide victory by getting 88.7% of the vote during the wartime election that allegedly took place only in areas controlled by the Assad regime (Tawfeeq and Mullen, 2014).

[Table 1 About Here]

Propaganda frames (RQ2). Our second research question asked what types of propaganda frames were used in the images posted to the two Facebook pages under study. Three categories used in analyzing frames of the images in this study are: *overt* vs. *covert*, *analytical* vs. *emotional*, and *human interest* vs. *non-human interest*. As shown in Table 2, the Syrian Coalition page (62.2%) included a significantly higher proportion of images that exhibit the *overt* frame than the Syrian President Facebook page (36.9%). According to a Chi-square test, the difference was statistically significant (χ^2 (1, df = 1) = 19.66, $p < .001$).

There was also a statistically significant difference between the two Facebook pages in terms of *analytical* vs. *emotional* (χ^2 (1, df = 1) = 8.89, $p < .01$). A slightly higher proportion of images posted on the Syrian Coalition page adopted the *emotional* frame (60.5%) than those posted on the Syrian President Facebook page (43.5%). The Syrian President Facebook page featured a higher proportion of images using the *analytical* frame (56.5%). This is in line with the finding that the Syrian Coalition page emphasized causalities of civilians in describing situations in Syria. Images of Syrian civilians crying in front of bodies of family or friends were emotionally charged and often graphic. In comparison, a significant proportion of images on the Syrian President page showed the president's interviews with Syrian or foreign media where he presented his arguments as to why he should remain the leader of the country.

According to a Chi-square test, there was no statistically significant difference between the two sides in terms of the proportion of images using the *human interest* frame (χ^2 (1, df = 1) = 1.15, $p > 0.5$). About 43.5% of the images on the Syrian President Facebook page included the *human interest* frame as compared to 49.6% of the images on the Syrian Coalition Facebook page. While the two sides were similar in terms of how frequently their Facebook images used the *human interest* frame, there were interesting differences as to how the frame was used as discussed in the next section. Most of the *human interest* frame images on the Syrian President

Facebook page covered stories of Syrian soldiers, who got injured or killed while fighting against Syrian opposition forces. In comparison, the *human interest* frame images on the Syrian Coalition Facebook page were used to emphasize oppression by the Syrian regime and sufferings of Syrian civilians.

Indeed, images that use *emotional* or *human interest* frames received a significantly higher amount of audience reactions on both the Syrian President's Facebook page and the Syrian Coalition Facebook page. As discussed above, images including these frames portrayed personal stories of specific individuals, and these approaches have shown to be effective in influencing the ways people think about particular issues (Brantner et al., 2011; Fahmy et al., 2014; Goldstein, 2009; Jowett and O'Donnell, 2015).

[Table 2 About Here]

Image type and audience reactions (RQ3). Our third research question asked how different types of theme and frame of Facebook images analyzed were associated with audience reactions to those images. When it comes to images on the Syrian President Facebook page, images featuring the theme of *casualties of civilians* received most audience likes (M = 2,185.37, SD = 2,386.51), comments (M = 140.00, SD = 130.66), and shares (M = 307.00, SD = 202.98). On average, images featuring the *unity* theme received the second highest number of likes (M = 1,625.77, SD = 1,504.13) and comments (M = 104.70, SD = 110.31) whereas images with the *humanity* theme received the second highest number of shares (M = 170.51, SD = 134.64). As shown in Table 3, these differences in the levels of audience reactions to images with different types of theme were statistically significant based on a series of analysis of variance (ANOVA) tests.

[Table 3 About Here]

Images conveying the themes of *causalities of civilians* and *threats from the enemy* received most audience reactions on the Syrian Coalition Facebook page. Specifically, images featuring the theme of *causalities of civilians* received the most likes (M = 179.96, SD = 185.30), the most shares (M = 100.36, SD = 121.17), and the second most comments (M = 7.03, SD = 8.73). In addition, images carrying the theme of *threats from the enemy* received most comments (M = 7.68, SD = 12.14) and the second most likes (M = 145.91, SD = 149.27). Images with the *destruction* theme received the second most shares (M = 78.71, SD = 120.84).

It makes sense that viewers of both the Syrian President Facebook page and the Syrian Coalition page reacted most actively to images conveying the theme of *casualties of civilians.* Those images were often emotional and graphic and thus may have encouraged support by linking, commenting on, or sharing those images. It also seems intuitive that images with the *unity* theme were popular among people who support the Syrian President in that the Facebook page is aimed mainly at solidifying its power base. Images carrying the themes of *threats from the enemy* and *destruction* were popular on the Syrian Coalition Facebook page, probably as those supporting the opposition group wanted to emphasize the deprivation and oppression under the Assad regime.

In terms of types of frame and audience reactions, images that use *emotional* or *human interest* frames received a significantly higher amount of audience reactions on both the Syrian President's Facebook page and the Syrian Coalition Facebook page (Table 4). As discussed above, images including these frames portrayed personal stories of specific individuals, and these approaches have shown to be effective in influencing the ways people think about particular issues (Brantner et al., 2011; Fahmy et al., 2014; Goldstein, 2009; Jowett and O'Donnell, 2014). The two Facebook pages differed in terms of audience reactions to *overt* vs. *covert* frames. On the Syrian President's Facebook page, *covert* frame images generated a greater level of reactions

than *overt* frame images. In contrast, *overt* frame images were more popular than *covert* frame images on the Syrian Coalition Facebook page.

[Table 4 About Here]

Discussion and Conclusion

Communication networks provide affordances necessary for the flow of messages among communicators (Benkler, 2006; Monge and Contractor, 2003). The development of the Internet as a medium for high-speed communication networks has had significant consequences for aspects of society including collaborations within and across borders, political movements, social change, and trade (Benkler, 2006; Castells, 2010). For example, social collaborative networks, facilitated by popular social media sites such as Facebook and Twitter, helped activists mobilize citizens, organize protests, and network with activists in neighboring countries during the so-called Arab Spring (Kirkpatrick and Sanger, 2011; Seo and Thorson, 2012).

These networked spaces facilitate dynamic creation, sharing, and deletion of various modes of communication content—text, still image, video, and audio—in one-to-one or one-to-many communication conditions. Stories of political movements in the Middle East and North Africa since 2010 and subsequent conflicts in the regions were often shared via popular social media sites like Facebook and Twitter with significantly increased Internet penetration rates in the regions and around the world in recent years (Internet World Stats, 2015). This meant that main parties in conflicts utilized social media for their propaganda purposes while sharing attention-grabbing images.

Our study analyzed visual propaganda in the social media age by examining one of the most significant recent examples—conflicts between the Syrian President Bashar al-Assad regime and Syrian opposition forces following the popular uprisings in Syria in 2011. Social media played a significant role in the ongoing conflict in Syria, dubbed as “the most socially

mediated" conflict in history (Callaghan et al., 2014: 1). Moreover, images were particularly salient in these conflict situations, as people preferred content that is easy to understand and share.

Our results suggest that analysis of theme is an important component of visual political communication research involving social media sites. We found that there were statistically significant differences between the Syrian President's Facebook page and the Syrian Coalition Facebook page in terms of prominent themes featured on the images posted to each Facebook page. A significant number of images on the Syrian President's Facebook page focused on President Bashar al-Assad and suggested that he is a strong, fearless, and extremely forceful leader who acts in the best interest of the Syrian people. The most frequent theme in the images on the Facebook page was *unity* within Syria and with foreign allies. Many photos under this study showed his diplomatic activities with foreign allies, such as Assad receiving an award by Russian officials for "defending his people." Quite a few images also featured Syrian First Lady Asma al-Assad depicting her as "a caring mother" for the country. She was shown consoling civilians and children affected by the violence. These photos instantiated the theme of *humanity*. The Syrian President's Facebook page generally shied away from war imagery and acknowledging the actions or political efforts of the "enemy," or opposition forces. Anytime opposition forces were mentioned, Assad characterized them as terrorists and emphasized his role in protecting his country. These images served to solidify the Syrian government's narratives that (i) President Assad fearlessly protects its people; (ii) life has continued normally throughout Syria; and (iii) Assad and his wife live in a time of relative stability in the country.

In comparison, images on the Syrian Coalition emphasized the themes of *threats from the enemy*, *casualties of civilians*, *unity,* and *victory*. Those images, often in the form of still photo or graphic illustration, explicitly expressed their messages of reviving revolution in Syria.

Multimedia content depicted the suffering of children, women, and the elderly. At the same time, it showed these individuals engaged in acts of defiance towards the regime, such as holding signs or participating in protests. Some images also employed the religious rhetoric of "martyrdom," which appeals to its overwhelmingly religious audience (Halverson et al., 2013). Many images were designed to expose government violence and torture, while inspiring solidarity and action among ordinary Syrians. Images posted to the Syrian Coalition page also attempted to connect struggles of resistance in Syria to broader social issues, including class struggles and economic problems such as homelessness and hunger. Often times, the images made an appeal to all corners of Syrian society to unite and revive the demands for democratic change, political rights, and economic improvement many protestors made during the 2011 Syrian revolution.

Images carrying the theme of *causalities of civilians or military personnel* generated were frequently featured on both the Syrian President's Facebook page and the Syrian Coalition Facebook page. However, it was interesting to see how the same theme was conveyed by each side, and how those images were used to support each party's narrative. On the Syrian Coalition Facebook page, the *casualties of civilians* theme was visualized often with graphic images of children or adults killed by the Assad regime. This aspect was particularly salient during the alleged chemical weapons attacks on civilians by the Assad regime in 2013. In comparison, the Syrian President Facebook page emphasized the theme with images of grieving families and friends of military personnel who were killed during fights against Syrian opposition forces.

This research helps us understand mechanisms and outcomes of dynamic social collaborative networks activated during conflict situations. The emergence of digital media-facilitated social collaborative networks has brought a shift from "the mass-mediated social spaces" to "a networked public sphere" (Benkler, 2006). Information is generated and exchanged without necessarily going through traditional intermediaries. The result is the rapid emergence

and extinction of networked spaces. A consequence is that the distribution of information often becomes more decentralized, even as many of the underlying and enabling communication protocols remain largely under the centralized control of governments and large-scale service providers (themselves subject to government regulation and control). This study helps us understand characteristics of images posted on social media sites during conflicts—images that are not mediated by mass media. Most of studies in visual framing of conflict situations have focused on images featured on mainstream media (e.g., Aday et al., 2005; Greenwood and Jenkins, 2015; Schwalb et al., 2008).

Our research shows framing is an important component of visual political communication research involving social media sites. The Syrian government used visual frames to support its narrative that President Assad is a fearless leader protecting its people and that life has continued normally throughout Syria. The Syrian opposition used various images to solidify its narrative of the Assad regime's brutality and sufferings of Syrian civilians. Moreover, this study shows that traditional frame categories remain to be relevant in analyzing social media-based propaganda images. As discussed in the Methods section, we used three propaganda frame categories—*overt* vs. *covert*, *analytical* vs. *emotional*, and *human interest* vs. *non-human interest*—guided by previous research (Cull et al., 2003; Goldstein, 2009; Jowett and O'Donnell, 2015). These categories were pertinent in analyzing images posted to the two Facebook pages under this study. The *covert* frame was prominent in images on the Syrian President Facebook page, as the Syrian government used subtle imagery in stressing that things are orderly in Syria and most people are doing well under the Assad regime. For example, the Syrian President's Facebook page posted images of the President and the First Lady attending cultural events or events for children. These images implicitly indicate that things are normal in Syria despite tension within the country and with other countries. In contrast, the *overt* frame was frequently used in images on the Syrian

Coalition Facebook page, as the opposition group focused on more explicit messaging of calling the Syrian President "evil" and urging Syrian people and the international community to join their fight against the Assad regime. For example, with the ISIS making international headlines, the Syrian Coalition changed its cover image to a graphic illustration featuring the portrait of Assad being crossed, which was accompanied by a caption reading, "Assad Regime is the root cause of ISIS. It must be defeated alongside ISIS" (Figure 1).

[Figure 1 About Here]

The *human interest* frame was also significant. This finding is in line with previous research showing human interest frame is widely used in media coverage of international conflicts (Schwalbe et al., 2008; Schwalbe and Dougherty, 2015). For example, in covering the U.S.-led war in Iraq, media reports showed troops, Iraqi civilians, or journalists bringing a human element in presenting an event or issue (de Vreese and Semetko, 2000; Schwalbe et al., 2008). In this study, most of the *human interest* frame images on the Syrian President Facebook page covered stories of Syrian soldiers, who got injured or killed while fighting against Syrian opposition forces, and how their family and friends are taking care of them or coping with the death of their loved ones. Often times, Syrian First Lady Asma al-Assad appeared in those images shown as comforting soldiers or families (Figure 2). In comparison, the *human interest* frame images on the Syrian Coalition Facebook page were used to emphasize oppression by the Syrian regime and sufferings of Syrian civilians (Figure 3). In doing so, they highlighted specific individuals to convey their message and encourage viewers to feel personally connected to those individuals.

Moreover, this study showed that images using the *emotional* or *human interest* frame were more effective in generating audience reactions. It should be noted, however, that images with the *human interest* frame on the Syrian Coalition Facebook page received a higher number

of comments and shares but a significantly lower number of likes, compared with images without the *human interest* frame. This makes sense in that images with the *human interest* frame on the Syrian Coalition Facebook page often described civilian sufferings. Therefore, Facebook users may not have wanted to "like" the images since the act of "liking" on Facebook is often considered endorsing what is shown in the image. Instead, they may have chosen to share or comment on the stories. This suggests that looking at specific types of audience reactions on social media sites is important for a nuanced understanding of the interplay between content type and audience responses to the content.

[Figures 2 and 3 About Here]

The current study updates literature on framing (e.g., Entman, 1993; Melki, 2014; Reese, 2007; Scheufele and Tewksbury, 2007), in particular visual framing (e.g., Borah, 2009; Brantner et al., 2011; Domke et al., 2002; Green, 2014; Greenwood and Jenkins, 2015; Schwalbe and Dougherty, 2015). Previous studies on framing focused mostly on how mass media used framing devices—for example, conflict, peace, or human interest frames—in covering major events. By analyzing how visual frames are used in social media sites during an international conflict, this study helps us better understand how framing is adopted in a networked public space (Benkler, 2016) as opposed to mass media-mediated contexts. As discussed above, this study finds that framing categories used in previous studies were relevant, but a more diverse approach to framing is found in the networked space. Frame categories developed as part of this study should be useful for future studies in this area.

This study also contributes to enhancing our understanding of propaganda in the networked information age. While previous models of propaganda emphasized heavily on the role of mass media and one-way communication types (Cull and Welch, 2003; Herman and Chomsky, 1988), our research shows that active two-way communication between the

propagandist and the public has become more common, as social media has emerged as an important channel for messaging. Signs of increased interactivity between political actors and the mass public and their potential influence on strengthening or weakening of messages were particularly salient in the case of the Syrian Coalition Facebook page. New information or arguments were often introduced as a consequence of exchanges between the Facebook page management team and visitors of the Facebook pages or exchanges between Facebook page visitors. In addition, English and Arabic comments on the site by the public often invited additional comments on the content posted by the Syrian Coalition. One can argue that exchanges between the Facebook page manager and the public on the Syrian President's Facebook page is largely manufactured by the Office of the Syrian Presidency. Indeed, the absolute majority of the comments on the site were supportive of the president. We should not ignore, however, the fact that these exchanges still influence how messages are perceived and shared by people who visit the Facebook page. Therefore, it is important to take into account different types of interactions between the political actors and the public on social media sites and outcomes of these interactions.

Most of all, this research highlights the importance of incorporating two-way communication between the propagandist and the public in developing a new propaganda model reflecting the changing media environment. Jowett and O'Donnell (2015) introduced one of the latest models of the process of propaganda in their updated book, *Propaganda and Persuasion*. While the model rightly captures social-historical context and influence of mass media and the public on propaganda messages, it doesn't sufficiently consider interactions taking place at digital media-based networked spaces. As shown in the current research, social collaborative networks enabled by digital media technologies have emerged as important forces for creating and diffusing propaganda messages. An updated model of propaganda should pay more attention

to this aspect. In addition, social interactions via social media could be better understood by integrating information from several distinct layers—communication network system, networked space, and socio-political layers. For example, changes in the communication system layer (e.g., disruption of Internet connectivity) influence types of communication tools used, how groups interact, and modes of shared content. Modeling interactions between layers enables a more robust picture of social interactions and supports high-level situational awareness in rapidly changing, often highly non-linear, communication environments.

Limitations and future research. As with any empirical research, our study is not without limitations. We analyzed one Facebook page each from the Syrian government side and the opposition side. While each page was the most representative of each side—for example, the National Coalition of Syrian Revolution and Opposition Forces (Syrian Coalition) has represented Syrian opposition groups in international meetings (Bouchard, 2014)—an analysis of multiple Facebook pages from each side would draw a more complete picture. Similarly, it would be helpful to compare images featured on the Syrian Coalition Facebook page with those on other Syrian opposition groups' Facebook pages.

Future research may compare themes and frames of images on the Syrian President Facebook page and the Syrian Coalition Facebook page with images used by mass media outlets that the two sides were relying on to promote their agenda. A follow-up study may also examine the role of social influencers in social media-based visual propaganda. In networked spheres characterized by increased disintermediation and decentralization, information propagation and diffusion is increasingly influenced by those with significant clout in the digital sphere. Thus identifying social influencers and understanding their roles in the process of information propagation is essential.

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Figure 1. October 2014 cover photo of the Syrian National Coalition Facebook Page

Figure 2. An image conveying the *human interest* frame that was posted to the Syrian President's Facebook page

Figure 3. An image conveying the *human interest* frame that was posted to the Syrian National Coalition Facebook page

Table 1. Prominent Themes

	Syrian President Facebook Page		Syrian National Coalition Facebook page	
Theme	*Count*	*Percent(%)*	*Count*	*Percent(%)*
Victory	34	15.9	16	13.4
Threats from the enemy	35	16.4	35	29.4
Casualties of civilians or military personnel	8	3.7	30	25.2
Destruction	2	0.9	7	5.9
Unity	68	31.8	16	13.4
Humanity	41	19.2	4	3.4
Other	26	12.1	11	9.2
Total	214	100	119	100

Note. According to a Chi-square test, there were statistically significant differences between the two sides in terms of prominent themes portrayed in their Facebook images (χ^2 (1, df = 6) = 69.22, p < .001).

Table 2. Propaganda Frames

Frame	Syrian President Facebook Page		Syrian National Coalition Facebook page	
	Count	*Percent(%)*	*Count*	*Percent(%)*
Overt vs. covert				
Overt	79	36.9	74	62.2
Covert	135	63.1	45	37.8
Total	214	100	119	100
Chi-square analysis result: χ^2 (1, *df* = 1) = 19.66, $p < .001$)				
Analytical vs. emotional				
Analytical	121	56.5	47	39.5
Emotional	93	43.5	72	60.5
Total	214	100	119	100
Chi-square analysis results: χ^2 (1, *df* = 1) = 8.89, $p < .01$)				
Human interest vs. non-human interest				
Human interest	93	43.5	59	49.6
Non-human interest	121	56.5	60	50.4
Total	214	100	119	100
Chi-square analysis results: χ^2 (1, *df* = 1) = 1.15, $p > 0.5$)				

Table 3. ANOVA Results for Theme Type and Audience Reactions

	Syrian President			National Coalition		
Theme	*Likes*[1]	*Comment*[2]	*Shares*[3]	*Likes*[4]	*Comment*[5]	*Shares*[6]
Victory	831.67[b]	68.73[b]	112.9[b]	68.56[b]	3.43	15.68[b]
	(825.82)	(79.05)	(68.14)	(61.22)	(2.85)	(12.94)
Threats from	389.45[b]	28.14[b]	136.97	145.91	7.68	75.57
the enemy	(269.31)	(31.02)	(102.58)	(149.27)	(12.14)	(123.71)
Casualties of	2185.37[a]	140.00[a]	307.00[a]	179.96[a]	7.03	100.36[a]
civilians	(2386.51)	(130.66)	(202.98)	(185.30)	(8.73)	(121.17)
Destruction	1381.00	103.00	99.00[b]	104.28	4.71	78.71
	(916.41)	(65.05)	(11.31)	(100.54)	(2.62)	(120.84)
Unity	1625.77	104.70	153.47	59.12[b]	3.18	9.50[b]
	(1504.13)	(110.31)	(138.95)	(95.30)	(3.31)	(13.31)
Humanity	1353.46	89.80	170.51	14.00[b]	2.50	2.50[b]
	(1668.87)	(124.97)	(164.52)	(7.74)	(2.38)	(2.08)
Other	1027.26[b]	64.53[b]	118.65[b]	49.45[b]	2.09	7.72[b]
	(1105.34)	(85.45)	(134.64)	(70.02)	(3.23)	(13.62)
Total	1191.15	80.03	148.59	116.63	5.47	56.34
	(1385.20)	(100.82)	(135.79)	(142.28)	(8.35)	(101.45)

Note. This table shows means and standard deviations (in parentheses). [a] and [b] indicate statistically significant mean differences according to Scheffe post hoc tests, [1]($F = 4.75$, $p < .001$); [2]($F = 3.12$, $p < .01$); [3]($F = 2.83$, $p < .05$); [4]($F = 3.02$, $p < .01$); [5]($F = 1.36$, p = n.s.); [6]($F = 3.11$, $p < .01$).

Table 4. ANOVA Results for Frame Type and Audience Reactions

	Syrian President			National Coalition		
Frame	*Likes*	*Comment*	*Shares*	*Likes*	*Comment*	*Shares*
Overt	614.34	46.07	146.06	147.95	7.31	81.10
	(633.85)	(51.98)	(138.12)	(159.80)	(9.94)	(121.03)
Covert	1528.69	99.91	150.07	65.11	2.46	15.62
	(1582.79)	(116.22)	(134.90)	(86.94)	(2.86)	(23.91)
F	24.06	15.51	.04	10.23	10.13	12.82
p-value	< .001	< .001	n.s.	< .01	< .01	< .001
Analytical	878.37	73.20	140.07	88.23	4.85	65.83
	(1009.47)	(108.95)	(135.74)	(105.32)	(6.87)	(126.30)
Emotional	1598.10	88.92	159.67	135.16	5.88	50.15
	(1678.44)	(88.94)	(135.78)	(159.92)	(9.21)	(81.67)
F	15.13	1.28	1.09	3.15	.43	.41
p-value	< .001	n.s.	n.s.	< .05	n.s.	n.s.
Human	1358.22	92.57	175.28	113.49	5.86	67.64
interest	(1649.77)	(110.16)	(151.80)	(150.94)	(10.09)	(117.44)
Non	1062.74	70.40	128.08	119.71	5.10	45.23
human	(1131.78)	(92.33)	(118.68)	(134.43)	(6.25)	(82.29)
F	2.40	2.56	6.51	.05	.24	1.45
p-value	n.s.	n.s.	< .01	n.s.	n.s.	n.s.

Note. This table shows means and standard deviations (in parentheses). Mean difference test results (*F*, *p*-value) are based on ANOVA analysis.